STATE OF CALIFORNIA **CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD**

Base Year Modification Request Certification

Part 2: Generation Study - Includes Extrapolation of Residential or Non-Residential Diversion Data

To request a substitution for a previously approved base-year used in calculating the diversion rate for your jurisdiction, please complete and sign this form and return it to your Office of Local Assistance (OLA) representative at the address below, along with any additional information requested by OLA staff. When all documentation has been received, your OLA representative will work with you to prepare for your appearance before the Board. If you have any questions about this process, please call (916) 341-6199 to be connected to your OLA representative.

Mail completed documents to:

California Integrated Waste Management Board
Office of Local Assistance
1001 I Street, 9th Floor
PO Box 4025
Sacramento, CA 95812-4025

General Instructions:

Please select the **ONE** choice below that best explains your request to the Board.

☐ 1. Use a recent generation-based study to calculate our current reporting-year generation amount, but not officially change our existing Board-approved base year.

☒ 2. Use a recent generation-based study to officially change our existing Board-approved base year to a new base year.

The shaded cells on these sheets are protected . If you have problems using these sheets, please contact your Office of Local Assistance representative.

Section I: Jurisdiction Information and Certification

All respondents must complete this section.

I certify under penalty of perjury that the information in this document is true and correct to the best of my knowledge, and that I am authorized to make this certification on behalf of:

Jurisdiction Name	County	
San Jose	**Santa Clara**	
Authorized Signature: Ellen D. Ryan	Title: DEPUTY DIRECTOR, ENVIRONMENTAL SERVICES DEPT	
Type/Print Name of Person Signing: ELLEN D. RYAN	Date	Phone ( ): (408) 277-5533
Person Completing This Form (please print or type): MICHAEL FOSTER	Title: ASSOC. ENVIRONMENTAL SPECIALIST	
Affiliation: CITY OF SAN JOSE		

Mailing Address	City	State	ZIP Code
777 North First Street, Suite 450	San Jose	CA	95112-6340

E-mail address

City of San Jose

1990 New Base Year

Section II: Information for New Generation-Based Study

Attach additional sheets if necessary— reference each response to the appropriate cell number (e.g., 4).

Note: New base years must be representative of a jurisdiction's disposal and diversion.

1. Current Board-approved existing base-year:	2. Proposed new generation-based study year:
1990	1999

3. Explain how the proposed generation study year is representative of average annual jurisdiction disposal and diversion:

Diversion and disposal tonnage is consistent with historical figures. An effort was made to quantify previously unquantified diversion.

4. Enter your diversion rates below,

Diversion rate calculated using existing base year	**a. 46 %**	**Diversion rate calculated using new generation-based study**	**b. 59 %**
For existing base year pounds/person/day based on generation	**7**	**For new generation based study pounds/person/day based on generation**	**12**
Residential generation 34 %	**Non-Residential generation 66 %**	**Residential generation 25 %**	**Non-Residential generation 75 %**
Population existing generation-based study	**906000**	**Population new generation-based study**	**906,000**

5. If there is an increase between 4a and 4b, please explain how the new diversion rate is consistent with your current diversion implementation efforts. If the proposed new generation tonnage results in an increase in your pounds/person/day, please explain how this is consistent with your current diversion implementation efforts and provide examples, e.g. change in jurisdiction's demographics.

An effort was made to quantify previously unquantified diversion from commerical and industrial sources.

6. If the difference between the proposed diversion rates in 4a and 4b is greater than 5 percentage points, please explain the specific reasons for the difference. (For example: new/improved curbside diversion programs.)

Adjustment factors do not adequately quantify the City's diversion efforts.

7. Disposal Tonnage: (enter values)	242899	548657	791556
	Residential	Non-Residential	Total

Please select the **ONE** choice below that best explains your **disposal** data and complete the required tables.

☑ a. All tons claimed are from the Board's Disposal Reporting System (No explanation required. Go to Section 8.)

☐ b. All tons claimed are from a 100 percent audit of hauler and self-haul tonnage. (Please complete Reporting Year Tonnage Modification Request and Certification sheet found at http://www.ciwmb.ca.gov/lgcentral/forms/rytnmdrq.doc)

☐ c. Some Disposal Reporting System data were corrected. (Please complete Reporting Year Tonnage Modification Request and Certification sheet found at http://www.ciwmb.ca.gov/lgcentral/forms/rytnmdrq.doc)

8. In the table below, list the summarized diversion activities, and diversion data records that support your claim and are available for Board audit. (Note: the Board expects the jurisdictions to be able to provide all back-up documentation, if requested.) Include type of record and location—for example, weight tickets from transfer stations. This section should capture all diversion tonnage (form will perform all addition calculations). If any diversion is from restricted wastes [i.e., agricultural wastes, inert solids (e.g. concrete, asphalt, dirt, etc.), white goods, and scrap metal], please identify those programs/waste types and fill out section 11. Note: Restricted waste material should not be extrapolated in non-residential waste audits. Please mark as attachment 8 all copies of survey forms.

* Please provide detailed non-residential waste audit information in Section 9.

Note: The Board has indicated that it will be scrutinizing total source reduction amounts greater than 5% of total generation. Please be prepared to provide additional details subsantiating your claim.

Diversion Activity Please use the Board's program types. The program type glossary is online at http://www.ciwmb.ca.gov/LGCentral/PARIS/Codes/Reduce.htm	Actual tons (A)	Estimated or extrapolated tons (B)	Total tons (A+B)	Relative Percent to Total Generation (A+B)/Total Generation	Specific material type(s) (List programs with multiple materials together)	Specific conversion factor used (if any) and Source	Type of record and location of record
Residential Activities:							
Source Reduction							
Backyard composting	1428		1428.11	0.1%	Food waste and green waste	700 lbs per bin per year	City report
Grasscycling							
Other residential source reduction (list each program separately)							
Diaper service	364		364	0.0%	Diapers	1 lb per diaper	Phone survey
Enter program name							
Enter program name							
Enter program name							
Enter program name							
Subtotal Res. Source Reduction	**1792**	**0**	**1792.11**	**0.1%**			
Recycling							
Curbside Recycling	93074	N/A	93073.66	4.9%			
Buyback centers	10841	N/A	10841.16605	0.6%			
Drop-off centers	168	N/A	167.645	0.0%			
Other residential recycling: (list each program separately)							
Enter program name		N/A					
Enter program name		N/A					
Enter program name		N/A					
Enter program name		N/A					
Enter program name		N/A					

Diversion Activity Please use the Board's program types. The program type glossary is online at: http://www.ciwmb.ca.gov/LGCentral/PARIS/Codes/Reduce.htm	Actual tons (A)	Estimated or extrapolated tons (B)	Total tons (A+B)	Relative Percent to Total Generation (A+B)/Total Generation	Specific material type(s) (List programs with multiple materials together)	Specific conversion factor used (if any) and Source	Type of record and location of record
Subtotal Residential Recycling	**104082**		**104082.4711**	**5.4%**			
Composting							
Green waste drop-off		N/A					
Curbside green waste	123854	N/A	123853.59	6.5%	Green waste		City report
Christmas Tree program		N/A					
Other residential composting (list each program separately)							
Enter program name		N/A					
Enter program name		N/A					
Enter program name		N/A					
Enter program name		N/A					
Enter program name		N/A					
Subtotal Residential Composting	**123854**		**123853.59**	**6.5%**			
Subtotal Residential Diversion	**229728**	**0**	**229728.1711**	**12.0%**			
Non-Residential Activities: Source Reduction							
Non-residential Waste Audits*	4665	1203	5867.534646	0.3%	**See Section 9**	**See Section 9**	**See Section 9**
Other non-residential source reduction (list each program separately)							
Material handlers (commercial source reduction)	20191	N/A	20191.41945	1.1%	Food bank, pallet handlers		Phone survey
Grasscycling (golf courses and cemetaries)	2958	N/A	2958.497978	0.2%	Grass	350 lbs. per 1000 sq ft/year	Phone survey
Grasscycling (school district)	7166	N/A	7165.647965	0.4%	Grass	350 lbs. per 1000 sq ft/year	Phone survey
Grasscycling (city parks and grounds)	6307	N/A	6307	0.3%	Grass	350 lbs. per 1000 sq ft/year	Phone survey
Enter program name		N/A					
Subtotal Non-Residential Source Reduction	**41287**	**1202.649358**	**42490.10004**	**2.2%**			
Recycling							
Non-residential Waste Audits*	44962	109195	154157.0591	8.1%	**See Section 9**	**See Section 9**	**See Section 9**
Other non-residential recycling (list each program separately)							
City in-house diversion	69714	N/A	69714	3.6%	Concrete, asphalt, paper, aggregate		Phone survey
Material handlers (commercial recycling)	21999	N/A	21998.53662	1.1%	Tallow, asphalt, concrete, computers, animal feed, tree trimmings, paper, food, wood		Phone survey
Enter program name		N/A					
Enter program name		N/A					

Diversion Activity Please use the Board's program types. The program type glossary is online at: http://www.ciwmb.ca.gov/LGCentral/PARIS/Codes/Reduce.htm	Actual tons (A)	Estimated or extrapolated tons (B)	Total tons (A+B)	Relative Percent to Total Generation (A+B)/Total Generation	Specific material type(s) (List programs with multiple materials together)	Specific conversion factor used (if any) and Source	Type of record and location of record
Enter program name		N/A					
Subtotal Non-Residential Recycling	**136675**	**109194.6498**	**245869.5957**	**12.8%**			

Diversion Activity Please use the Board's program types. The program type glossary is online at: http://www.ciwmb.ca.gov/LGCentral/PARIS/Codes/Reduce.htm	Actual tons (A)	Estimated or extrapolated tons (B)	Total tons (A+B)	Relative Percent to Total Generation (A+B)/Total Generation	Specific material type(s) (List programs with multiple materials together)	Specific conversion factor used (if any) and Source	Type of record and location of record
Composting							
Non-residential Waste Audits*					See Section 9	See Section 9	See Section 9
Other non-residential composting (list each program separately)							
Enter program name		N/A					
Enter program name		N/A					
Enter program name		N/A					
Enter program name		N/A					
Enter program name		N/A					
Subtotal Non-Residential Composting	**0**	**0**	**0**				
Subtotal Non-Residential Diversion	**177962**	**110397.2991**	**288359.6957**	**15.1%**			
Residential/Non-residential Diversion Activities							
ADC	209624	N/A	209623.94	10.9%	ADC		CIWMB
Sludge		N/A					
Scrap metal		N/A					
Construction and demolition	125000	N/A	125000	6.5%			
Landfill salvage	270503	N/A	270503.03	14.1%	Inerts, tile, toilets, yard waste, cardboad, metals		Landfill reports
Subtotal Residential/Non-Residential Diversion	**605127**		**605126.97**	31.6%			
Total Res/Non-Res Source Reduction Tons	**43080**	**1203**	**44282**	2.3%			
Total Diversion Tons	**1012818**	**110397.2991**	**1123214.837**	**59%**			
Total Disposal Tons from Sec.7	791556		**791556.38**	**41.3%**			
Total Generation (Div+Dis)	1804374	110397.2991	1914771.217				
Diversion Rate				**59%**			

9. Specific Non-Residential Sector Waste Audits – Top 10 Non-Residential Generators

Please complete this table for the top 10 non-residential generators that were surveyed. List each non-residential generator separately from the largest to smallest, based on total diversion tons. Audit reference number ties to your audit sheets.
(Form will perform all calculations).

Include attachment, marked attachment 9, which includes a summary of all the generators surveyed and all extrapolation calculations used to estimate the diversion rate:

- Include copies of survey form(s) used.
- Include for each generator (use type of generator in lieu of specific generator name, e.g. grocery store) each specific diversion activity and material type (e.g. cardboard recycling) and the associated tonnage for each diversion activity/material type, and applicable conversion factors/source.
- If using number of employees for your extrapolation method, include this information for each generator surveyed.
- Please order the non-residential generators, largest to smallest, based on total diversion tons.
- Also, summary should include the generators that were selected to be surveyed, but did not respond to the survey and the number of employees at each generator.
- As a comparison between disposal from the waste audits and DRS, the disposal for each generator must be included in the summary. Also, you should note if the disposal is being used for the extrapolation calculation. For each non-residential generator, the disposal must be broken out by cubic yard, and roll-off or compactor weights. If disposal was estimated for either disposal-based or employment-base extrapolation methods, please include conversion factor(s) for disposal and source for conversion factor(s). Please provide an explanation as to how the conversion factor(s) is (are) appropriate for your jurisdiction, e.g. study was conducted to determine average weights using hauler weight tickets, etc.

Type of Non-residential Generator	Audit Reference Number	Specific Diversion Activities include material type (e.g. paper recycling, grasscycling). (List activities on one line)	Number of Employees	Source Reduction Tons	Recycling Tons	Composting Tons	Total Diversion Tons	Percent of Total Generation (Total Diversion Tons/Total Generation in Section 8)	Survey Method Phone (P) Mail (M) On-site (O) Other ___
News paper	15855	Cardboard and paper recycling	68	1	7594		7595.560031	0.4%	O
Paper manufacturer	9655	Cardboard recycling	99	365.7	4618		4983.2168	0.3%	O
Brewery	18499	Cardboard and food waste recycling	12	1913	210		2122.64	0.1%	O
Lumber	16932	Wood recycling	35	0	2068		2067.96725	0.1%	P
Computer manufacturer	6547	Paper recycling, grass, toner cartridges, construction debris	10392	0	2127		2126.815	0.1%	O
Food manufacturer	7345	Cardboard and food waste recycling	161	661	619		1279.5315	0.1%	O
Retail	9045	Cardboard recycling and reuse, clothing donation	167	234	931		1165.0925	0.1%	O
Retail	4508	Cardboard recycling and reuse	100	2	1022		1023.5125	0.1%	O
Retail	12599	Cardboard recycling and reuse	162	57	962		1018.2855	0.1%	O
Retail	17216	Cardboard recycling and reuse	153	37	935		972.0456016	0.1%	O
Totals			11349	3269	21085		24355		

Summarize the non-residential diversion activities for the top 10 generators quantification methodology and applicable conversion factors and sources. (e.g. cardboard recycling: quantified by monthly tonnage receipts provided by the contact person at the business)

The numbers below in parentheses correspond to the top ten generators above - numbered in order (1) through (10).
CARDBOARD: (1) 447 tons per year (TPY) recycled at Smurfit Recycling based on a monthly average of tons recycled from 6/98-5/99 from facility records (2) 4550 TPY from trim process received by Waste Management, Inc (WMI) cited by business representative based on facility records; 343.2 TPY cardboard slip-sheets reused based on business rep. estimates of 8800/week @ 1.5 lbs/ea. (derived by on-site weighing of sample sheet) (3) 41.6 TPY received by private hauler based on business rep. estimate of 2bales/week @ 800 lbs/ea. (4) 11.7 tons recycled by WMI based on 3 cubic yards (CY) X 3 days/week @ 50 lbs/CY (5) 659.56 TPY recycled by Browning Ferris Industries (BFI) based on records of 1,319,126 lbs for 1999 maintained by the company (6) 584 TPY recycled by BFI based business rep. estimate of 4 bales daily @ 800 lbs/ea. (7) 858 TPY backhauled based on 22 bales, 3 X week @500 lb/ea.; 228.1 TPY box reuse based on business rep. estimates of approximately 152000 disposable boxes repacked/yr (12 pallets/week, 8 sets/pallet, 22 boxes/set, 8 months of year & 30 pallets/week, 8 sets/pallet, 22 boxes/set, 4 months of year @ 3
PAPER: (1) 417.96 TPY white paper on cores recycled by Smurfit base on 6/98-5/99 monthly average from facility records; 350.04 TPY white newsblank recycled by Smurfit based on 6/98-5/99 mon
ROLL CORES: (1) 91.25 TPY fiber roll cores recycled by J&S Paper based on business rep. estimates of 200 rolls/daily @ 2.5 lbs each (derived by on-site weighing of sample core) (2) 58.5 TPY rec
TEXTILES: (1) 1.35 TPY disposable rags laundered and reused based on business rep. estimates of 1 CY/month @ 225 lbs/CY (2) 5.2 TPY disposable rags laundered and reused based on busines
PLASTIC: (1) 8.2 TPY plastic buckets/lids recycled based on business rep. estimates of 22 buckets & lids/day, 6 days/week @ 1.9lb/bucket & .5 lb/lid (5) 61.6 TPY mixed plastic recycled by BFI base

GLASS: (3) 168.5 TPY non-CRV glass recycled by WMI based on business rep. estimates of 3 CY/weekly pick-up @ 2160 lbs/CY

10. On a separate sheet of paper, marked attachment 10, provide the following information for each diversion program listed in section 8 that was extrapolated from representative sampling. (Note: Do not include non-respondents in extrapolation because there is no data from the non-respondents. Extrapolate from survey respondents.)

A. Describe sampling method including:

- Type of sampling method (for either stratified or cluster sampling provide detailed information on how strata and clusters were collected.);
- Total number of samples included in the survey;
- Number of non-respondents and respondents;
- Total population;
- Source for identifying population (e.g. city business licenses, commercial database, resident's addresses, etc.);
- Relation of sample size to total population;
- Survey data collection tool(s) and approaches;
- Confidence level and margin of error for the sampled population;
- Outliers (specific generators which fall significantly above or below others) should be removed from base amount prior to extrapolation; and
- Unusual outliers and exceptional anomalies should be described in detail.

B. Describe the methods used to prevent double-counting between the surveys and the reported tonnages from haulers, recyclers, MRFs and composters.

C. Describe extrapolation method including:

- Basis of extrapolation;
- Why this extrapolation method is appropriate; and
- Sources of information used for extrapolation, such as disposal or employment.
- Include all Calculations.

11. For each restricted waste type [(i.e. agricultural waste, inert solids (e.g. concrete, asphalt, dirt, etc.), scrap metals and white goods (PRC Section 41781.2)] and associated program, please provide the following information:

a. If the diversion program started on or after January 1, 1990, complete the following table:
(Note: program name refers to one specific diversion program for that waste type, for example diversion conducted by City Public Waste Dept.)

Restricted Waste Type	Specific Program name	Year started	Tonnage
Inert Solids	City street maintenance	Post 1990	5000
Inert Solids	City concrete and asphalt	Post 1990	62000
Inert Solids	City chip seal aggregage	Post 1990	2000
Inert Solids	Landfill diversion	Post 1990	181797
Inert Solids	Businesses concrete and asphalt	Post 1990	125000
Pull Down for Waste Types			

b. If the diversion program started before January 1, 1990, on a separate sheet, marked attachment 11b, provide the following documentation: (Note: If documentation for a waste type and program has already been approved by the Board, you do not have to provide an attachment 11b for that waste type and program. Instead please provide date of Board approval of previous submitted information.) _____ (Date)
If documentation is not available, go to **11d**.

- How the diversion was the result of a local action taken by the jurisdiction, which specifically resulted in the diversion [PRC Sec. 41781.2 (c) (1)].

- That the amount of that waste type diverted from the jurisdiction in 1990 was less than or equal to the amount of that waste type disposed at a permitted disposal facility by the jurisdiction in any year before 1990. (Note: this criterion is applicable to the entire jurisdiction, not to individual programs [PRC Sec. 41781.2 (c) (2)]). Please include documentation.
- The jurisdiction is implementing, and will continue to implement, the diversion programs in its Source Reduction and Recycling Element.

c. If the diversion program started before January 1, 1990, and the documentation requested in 11b is available (but not yet approved by the Board), complete the table below for each program claimed:

Restricted Waste Type	Specific Program Name	New base year or reporting year diversion tonnage
Pull Down for Waste Types		
Pull Down for Waste Types		
Pull Down for Waste Types		
Pull Down for Waste Types		
Pull Down for Waste Types		
Pull Down for Waste Types		

d. If the diversion program started before January 1, 1990, and the documentation requested in 11b is not available, please complete the table below for each program claimed. (***Note**: Only the difference between the new base year/reporting year and 1990 can be counted in the diversion rate calculation.)*

Restricted Waste Type	Specific Program name	New base year or reporting year tonnage	1990 diversion tonnage	Difference
Pull Down for Waste Types				
Pull Down for Waste Types				
Pull Down for Waste Types				
Pull Down for Waste Types				
Pull Down for Waste Types				
Pull Down for Waste Types				

New Base Year Form Section 10
Extrapolation of Data

For the random business survey, the total tonnage diversion was extrapolated using the following methodology.

A. Describe Sampling Method

- Type of sampling method. The City of San Jose business license database was used to generate the list of businesses for the study. Based on business type and size, 358 businesses were selected for targeted on-site waste assessments. Diversion tonnage for the targeted businesses were tracked separately and not included in the extrapolation. The remaining 20,152 businesses were used for the random business survey. The list was randomized and the businesses were called in the random order produced.

- Total number of samples included in the survey. Calls were made to 333 businesses out of 20,152 potential businesses.

- Number of non-respondents and respondents. Of the 333 businesses surveyed, 226 businesses, representing 5,272 employees, completed the survey and 107, representing 2,769 employees, declined to complete the survey. We assumed no diversion for the non-respondents.

- Total population. Total population for the random business survey was 20,152 businesses, representing 162,144 employees.

- Source of identifying population. The source was the City of San Jose business license database.

- Relation of sample size to total population. In determining the sample size for the study, we relied on the standard formula presented in Appendix K of the Diversion Study Guide. For an infinitely large population (at a 90 percent confidence level), the formula determines a minimum sample size of 271 samples.

- Survey data collection tools and approaches. The surveys were conducted by the San Jose State University Center for the Development of Recycling. The staff was trained by BVA in survey methods as described in the Diversion Study Guide. A copy of the survey instrument used to gather data from the random phone calls is attached.

- Confidence level and margin of error for the sampled population. As described in Appendix K of the Diversion Study Guide, the confidence interval for the sampled population is 90 percent with a plus or minus 5 percent precision level.

- Outliers. An outlier analysis was performed on the survey samples. The businesses were stratified by population into large and small strata (80/20 split) and the outlier analysis was performed using two times the standard deviation plus the mean to identify the outliers. All outliers were then removed from the extrapolation calculation.

A. Describe methods used to prevent double-counting between the surveys and the reported tonnages from haulers, recyclers, MRFs and composters.

No data from independent haulers, recyclers, MRFs or composters was included in the Waste Generation Study. A limited number of material handlers (including renderers, document destruction companies and animal feed companies) were surveyed for the Waste Generation Study. If a business reported diversion of these specific materials, the tonnage was excluded from the extrapolation in order to avoid double-counting.

B. Describe Extrapolation Method.

- Basis of extrapolation. For the large and small business strata, a weighted average recycling tonnage amount and a weighted average source reduction tonnage amount was calculated per employee to determine at recycling diversion correlative factor and a source reduction correlative factor. The correlative factors were multiplied by the total number of employees in the population (excluding those from the outliers) to obtain total recycling and total source reduction amounts.

- Why this extrapolation is appropriate. This extrapolation method (using weighted averages and excluding outliers) is conservative and estimates that there is approximately 1 ton diverted for every employee in the survey population.

	Sample Businesses	**Tons Per Employee**	**Correlative Factors (Tons per Employee)**		**Extrapolated to Total Population**	**Tons Per Employee**
	333 Businesses	8,040 Employees	Large Stratum	Small Stratum	20,152 Businesses	162,144 Employees
Recycling	9,115.69	1.13	0.60	0.12	109,194.65	0.67
Source Reduction	138.04	0.02	0.01	0.004	1,202.65	0.01
Total	9,253.73	1.15			110,397.3	0.68

- Sources of information used for extrapolation. Employment numbers were obtained for each business from the San Jose business license database.